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NEWSLETTER OF THE LONDON CHAPTER, ONTARIO ARCHAEOLOGICAL SOCIETY
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November/December 2000

00-7/00-8

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Next speaker night is March 8th and the speaker will be Chris Andreae. His topic is ***Opportunities and Constraints on Industrial Archaeology in Ontario.***

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As always, our meeting will be held at 8 pm at the London Museum of Archaeology, 1600 Attawandaron Road, near the corner of Wonderland & Fanshawe Park Road, in the northwest part of the city.

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ANNUAL RATES

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As we write this we are just into March/01 and so apologize greatly for the delays in delivery of the KEWA(s) for November and December 2000!! Part of the reason for this abnormal delay has been production problems but the major roadblock remains that as time passes it seems harder and harder to obtain manuscripts for publication. This roadblock seems contradictory since the pace of field archaeology in Ontario is at an all time high and yet the pace of published reports is at an all time snail's pace. It is true that a high percentage publications in local and regional journals are coming from the CRM work which dominates actual fieldwork. It is also true that much CRM fieldwork does not discover anything of archaeological significance that is worth publishing. Nonetheless, we encourage more people to publish.

We have our regulars who contribute to KEWA on a continuing basis, including many in the CRM field, but we would like to see submissions from a wider range than the regulars. Although we focus on southwestern Ontario, we are willing to publish material with a wider focus as can be seen by even a brief perusal of back issues. We do not seek lengthy treatises and even one or two page contributions would be welcomed with open arms. To keep production costs low and London Chapter membership fees from increasing, we aim for ten to twelve pages for a standalone issue and 18+ for a double issue. Surely there must be many contributions of that nature just waiting to see the light of day. We pledge that if we get the manuscripts we will get the issues out as fast as we can and usually, if they are lengthy enough for a complete issue and relatively edit free, within a week or two. After all, if Ellis can spend a considerable amount of time writing a contribution as is contained in this issue to help us get caught up, he most certainly would be willing to spend the time doing an editing job as that would take up even less of his time!! Moreover, he suspects that people might get tired of seeing Paleo-Indian reports (although he warns he has lots of these little reports in his head or partially worked out on paper!!).

Well, so much for sermonizing. We do have enough material in hand for another double issue for January and February and will be getting that issue to you shortly. Note that with this issue it may be time to renew your membership as most of our membership subscribes on a calendar year basis. Just check the sticker on the mailing envelope to see when your membership expires.

The January 2001 meeting featuring Neal Ferris talking on the Fairfield mission and the February members night with talks by five chapter members including Tom Arnold, Jodi Blumenfeld, Chris Ellis, Christine Nelson and Mike Spence doing presentations on everything from an Archaic Homo sapiens site in France to 19th century EuroCanadian sites in London, were both well attended with over 30 people in attendance at each. Chris Andreae will perhaps have already done his March presentation on Industrial archaeology by the time you receive this issue but we remind you that the April meeting, our last meeting before the summer recess, will feature Jim Wilson speaking on the Van Bree site, a Western Basin site in southwestern Ontario.

On other matter, even though Christine Nelson has been filling in, if anyone wants to be President of the chapter we still have an opening....we also welcome back longtime member Jim Keron as a director of the chapter.

EDITOR'S NOTE

This time we feature an exciting double issue of articles with a particular "Fox-ian" emphasis. Recently, Jim Wilson's consulting company revisited the Moyer Flats site (Princess Point) Bill investigated originally close to 20 years ago (ouch!). Jim's work found more Princess Point deposits, and no doubt will lead to an interesting, future site report. But, after a frenetic day of join the bits, Jim proudly dropped by the office last summer with a fully restored Princess Point vessel that they had recovered from their work at the site. Such an impressive vessel it was, the thought came to mind that a little write up of the pot for *KEWA* would be a good idea. Also, Jim was looking for the original Bill Fox article on Moyer Flats, so, of course, that next led to the idea of reprinting the original article itself, which was published in the *Birdstone* in 1986, the newsletter of the Guelph-Waterloo Chapter of the OAS. And, with Bill's blessing, that's what we decided to do. Of course, it was pointed out to us much later that, ahem, KEWA had already reprinted the Moyer Flats article, almost 10 years ago! Well, given that neither the current investigator, the former KEWA editor who had originally reprinted the article, or the article's author himself had remembered this little fact, we thought, what the hey, we may as well throw it in again, since we've gone to the work of formatting it! But we also then decided to include another Bill Fox article for reprinting, this time from the prestigious electronic publication available on Nick Adams (www/adamsheritage.com) web site. This, we assure you, has never been published on paper before!

So enjoy and, for those of you (and apparently there are very few) that have a slight sense of déjà vu, please just go with it!

The Moyer Flats Site Pot

Jim Wilson
Archaeologix Inc.

The Moyer Flat Princess Point site, located along the Grand River in the City of Kitchener, was relocated by Archaeologix Inc. during a standard Stage 1-2 assessment conducted in advance of the expansion the City of Kitchener's Doon Valley Golf Course. The Stage 2 fieldwork resulted in the determination that the site was larger than had been determined by Fox (see his article following this one), with cultural material scattered over a 100 by 40 meter area. Subsequent Stage 3 assessment consisted of the mapping of 139 surface artifacts and the hand excavation of 40 one-meter test units. The Stage 3 excavations resulted in the recovery of 1501 pre-contact Aboriginal artifacts, including 665 pieces of faunal remains, 38 rim sherds and rim sherd fragments, 36 neck sherds, 452 fragmentary sherds, 94 body sherds, six clay smoking pipe fragments, 204 pieces of chipping detritus, one projectile point, one biface fragment, one scraper, one net-sinker, one human femur mid-section, and one fragment of unidentified carbonized plant remain. All of the diagnostic material recovered during the Stage 3 testing can be assigned to the Princess Point phase of the Early Late Woodland period (650-900 A.D.).

While additional Stage 4 fieldwork and a final site report will be completed during the coming year, a near complete Princess Point vessel recovered from one of the Stage 3 test units is more than worthy of a preliminary description here (see Figure 1).

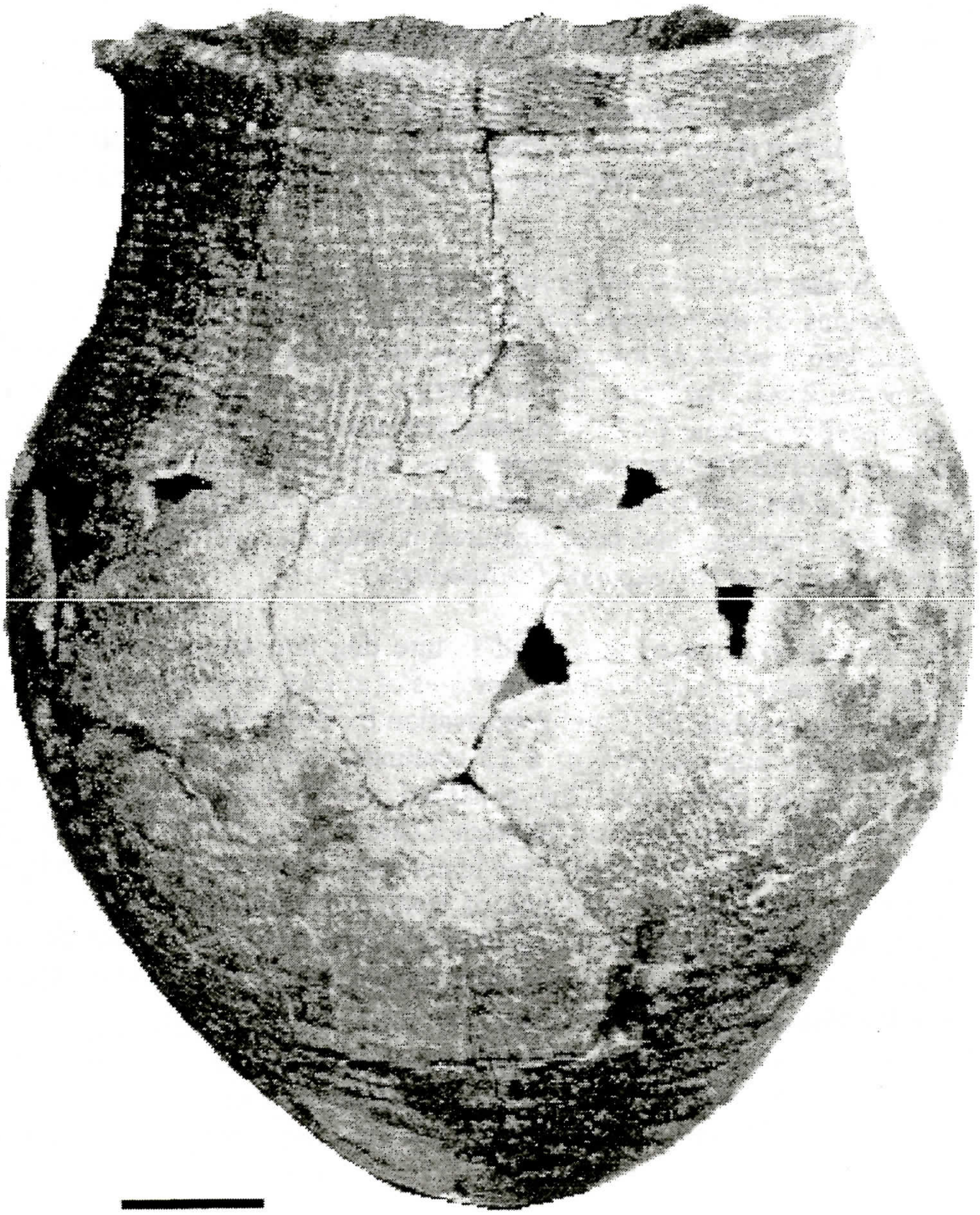

Figure 1: Moyer Flats Vessel.

The vessel measures 38.5 centimetres tall, with a maximum body width of width of 22.5 centimetres and an exterior rim width of 24.5 centimetres. At the rim, the vessel measures between 7.5 and 8.5 millimetres thick, with the wall of the vessel thinning to as little as 5-6 millimetres just below the shoulder. The walls gradually increase in width below this point, reaching a maximum thickness of approximately 15 millimetres at the base. The exterior decoration consists of a single band of oblique (R/L) cord wrapped stick impressions on the out-flaring upper rim. The rim zone and neck are separated by a band of 4-5 millimetres wide circular punctates, spaced approximately 1.5 centimetres apart. The neck decoration consists of two zones. Immediately beneath the obliques on the rim, there are three horizontal rows of cord wrapped stick impressions. The row of punctates is situated on the uppermost of these rows. Beneath the third horizontal row the cord-wrapped stick impressions fall away in a series of plaits, sloping from left to right. The rim and neck decoration extends 12.3 centimetres down the vessel (32% of the vessel height), beneath which the vessel is cord-malleated. At the very base of the vessel the cord malleation has either been smoothed over or worn off.

The lip is also decorated with cord-wrapped stick impressions, which are essentially continuations of the exterior rim decorations. The lip is flat and the rim has been sculpted into a series of low castellations, the peaks of which are approximately 7.0 centimetres apart. The upper interior margin of the vessel has been decorated with a single band of oblique (R-L) cord-wrapped stick impressions, apparently made with the same tool as the exterior decorations. The interior surface is smooth, with the exception of the low bosses associated with exterior circular punctates. The pot, while remarkably complete, had been fractured in antiquity, as there are a series of mend holes located along two separate fracture lines.

The pot had been placed in a small feature dug into an area of generalized refuse. Numerous pieces of deer bone and portions of at least three other pots were recovered from the surrounding fill. Careful excavation by Brent Wimmer resulted in the photo documentation and recovery of a 22 centimetre long mid-section of a robust large mammal femur from inside the collapsed vessel. Jamie Ginter and Dr. Michael Spence of The University of Western Ontario Department of Anthropology later identified this bone as human. The femur was fractured at both ends and did not exhibit any cut marks or evidence of heating. Its placement inside the vessel was clearly deliberate, and while no conclusions are drawn here, it does provide food for thought for those who care to stew over the nature of social relations during the Early Late Woodland period.

SALVAGE EXCAVATION OF THE MOYER FLATS SITE

William Fox

The London archaeology office of the Ministry was notified by Mr. Jack Redmond in June of 1982 that a Cambridge area farmer was planning to construct a dyke along the Grand River bank of his property (Figure 1). Jack, our Kitchener-Waterloo Archaeological Conservation program member, arranged for access to the property, as he had discovered prehistoric ceramics eroding from the bank in the area of the proposed construction activities. A June field inspection verified Jack's assessment and a salvage excavation was arranged for July. Subsequently, a crew of five excavated on the Moyer Flats site (AiHc-24) for two days.

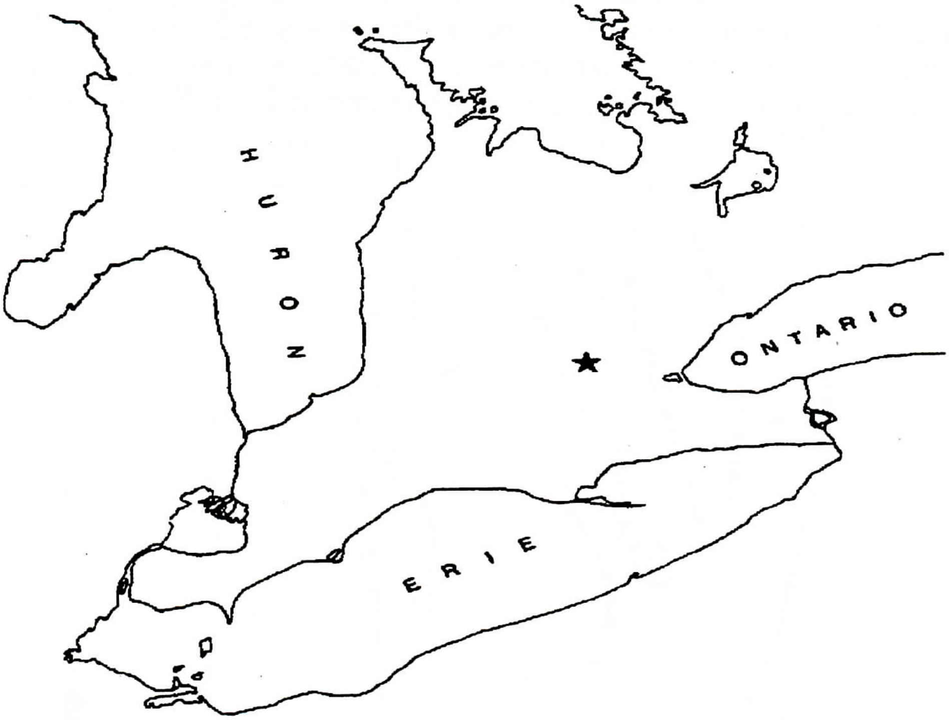

Figure 1: Site Location

Site Setting

Moyer Flats, like so many of the earlier Princess Point components, is situated on a fertile floodplain on the Grand River (Figure 2). Boomer loam soils cap sand and gravel deposits in the site vicinity (Presant and Wicklund 1971), and adjacent flats to the south east supported a maple/beech dominant forest with secondary amounts of elm, basswood and pine when they were surveyed by Adrian Marlet in 1817 (Finlay 1978).

At present, the flats are cultivated and usually planted in corn; however, the Moyer Flats site is located on the riverbank and is partially capped by a silty levee deposit. Recent flood action has created an erosion channel to the west. Few artifacts have been recovered from the adjacent field surface. A lesser volume of flood silt has been deposited in this area, suggesting that the ploughed field artifact distribution is an accurate reflection of the limited westward extent of the Moyer Flats site.

Field Work

Given the apparently limited area and flood eroded nature of the cultural deposit, it was decided to attempt to salvage the majority of the remaining site. Bank profiling indicated that the artifacts derived from a 17 cm thick dark grey-brown silt A horizon, which was covered by 44 cm of flood deposited grey-brown silt. The latter was culturally sterile and thus was removed by shovel on July 21, exposing a roughly triangular area measuring 5.5 m N-S by approximately 3 m E-W (Figure 3).

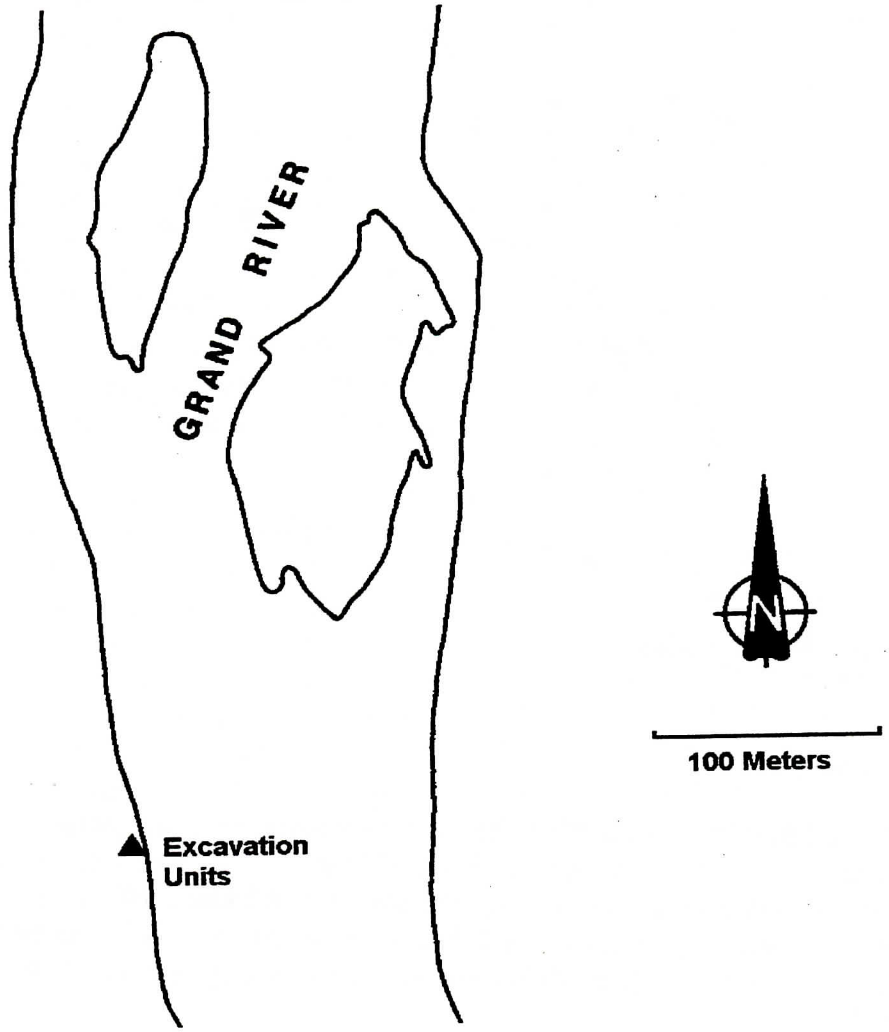

Figure 2

A pragmatic one metre square grid was laid out, and the old A horizon cultural stratum was trowelled and ¼ inch screened for artifact recovery. It was evident immediately upon removal of the recent alluvium that the cultural deposit did not extend across the entire area exposed. Only subsoil remained to the west and the A horizon thickened to the east. This is well illustrated in Figure 4, which depicts the south wall profile.

Artifacts

Ceramics

The artifact assemblage obtained from the limited excavation is small, as would be expected. Ceramic recoveries seem to represent no more than a dozen vessels, and little reconstruction was possible due to the small sample size. The distribution of sherds was uneven across the area, with just over 50 percent recovered from the most northerly units (Units 1, 2, and 10 – see Figure 3). Many were located adjacent to the northern fire cracked rock cluster.

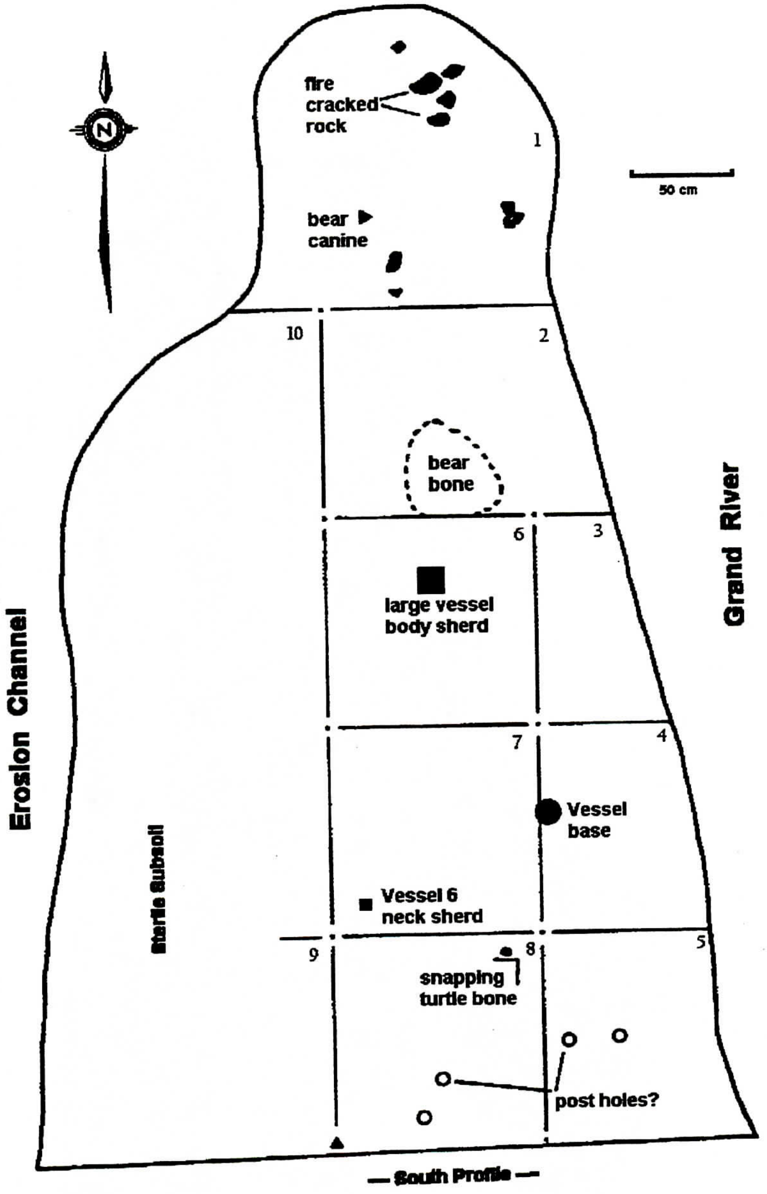

Figure 3: Moyer Flats Excavation units.

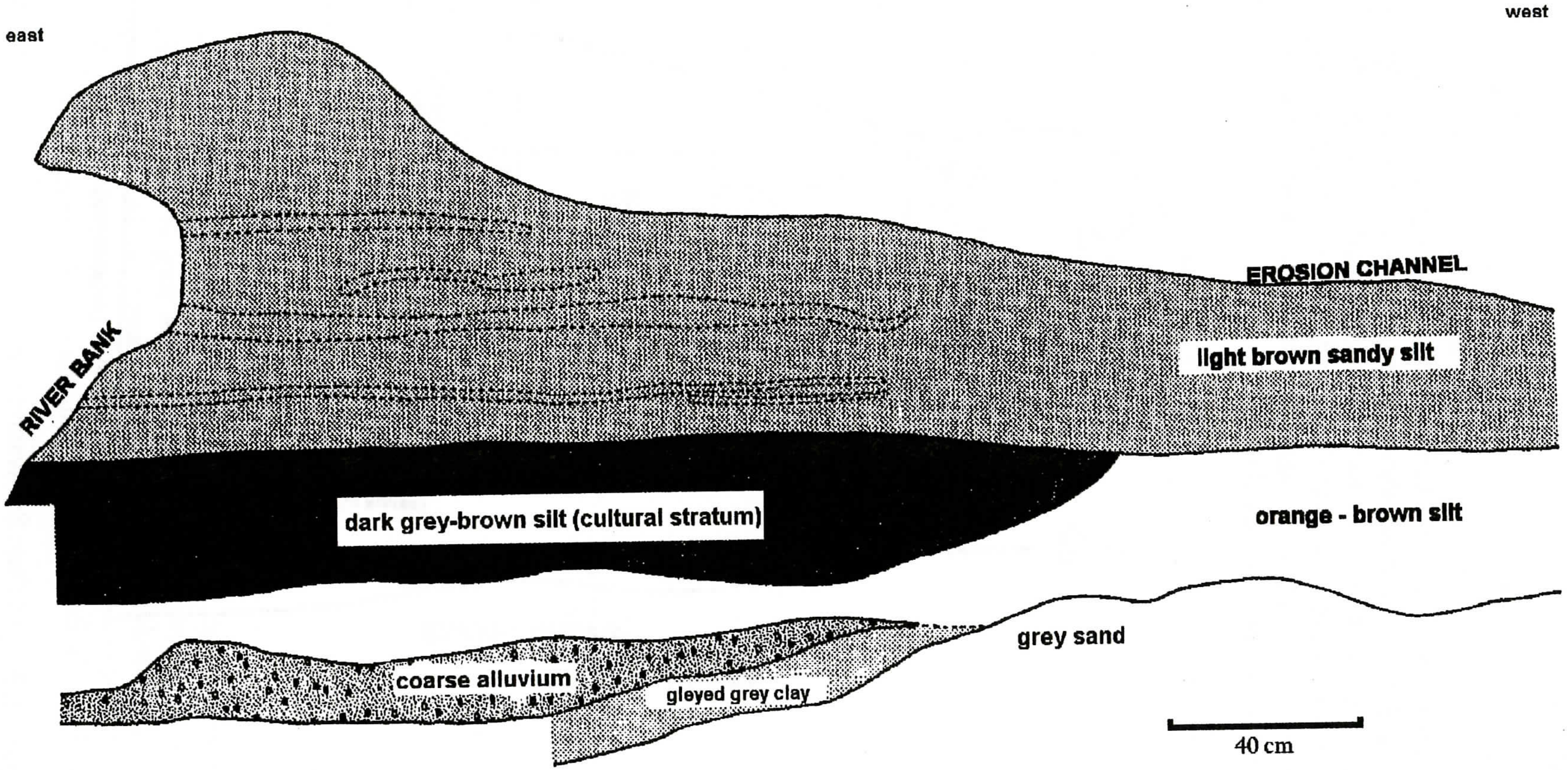

Figure 4: South Profile of Excavation

Moyer Flats ceramics tend to be friable sand and grit tempered wares displaying a black, orange-brown or red-orange exterior colouration and black or dark brown interiors. Orange coloured interiors appear to be the result of accidental secondary firing after vessel breakage. Rim decoration techniques and motifs are quite variable and will be described below; however, there are some recurring attributes.

All vessel rim exteriors have decoration applied on a well smoothed over cord surface. The interiors are completely smoothed and plain, except in one instance. Four of the five analyzable rims and another nearly complete specimen, display identical upper design elements on their exterior and interior surfaces. The final rim (Vessel 3) deviates only in having a row of obliques on the exterior as opposed to verticals on the interior. Exterior punctates on all four vessels displaying horizontal neck decoration are situated between the first and second lines (see Figure 5.1 and 5.3), and the bosses from interior punctates on one of the three vessels with horizontal neck decoration are similarly placed (see Figure 5.6).

Vessel 1 is represented by one rim and four neck sherds (see Figure 5.1). The rim exterior displays a row of long sinistral oblique suture impressions, formed by two carefully placed stamps each, above eight or more horizontal lines which appear to have been formed by loosely twisted cord impressions. Rectangular punctates are spaced 20-21 mm apart (centre to centre), measure 4.5 by 3.5 mm and are 3 mm deep. Interior decoration consists of a row of long sinistral oblique suture impressions identical in form to the exterior, above slight bosses created by the exterior punctates. The lip is 7.5 mm wide and exhibits perpendicular suture (?) impressions. Neck thickness varies from 6.5 to 8.5 mm and this vessel was decorated with at least one simple pointed castellation.

Vessel 2 also exhibits a simple pointed castellation (see Figure 5.2). A row of cord wrapped stick impressed sinistral obliques, above an opposed row of simple tool impressed dextral obliques, above three or more course cord wrapped stick horizontals, constitute the exterior rim decoration. Slight bosses are evident as a result of interior circular punctates measuring roughly 5.5 mm in diameter, 7.5 mm in depth and situated approximately 31 mm apart. Above the interior punctates is a row of vertical to sinistral oblique cord wrapped stick impressions. Smoothed over fabric (?) impressions are evident on the neck interior. The lip is 6.5 mm wide and is decorated with perpendicular cord wrapped stick impressions.

Vessel 3 is represented by one rim sherd and possibly two neck sherds. The rim exterior is decorated with a row of sinistral oblique cord wrapped stick impressions above two or more cord wrapped stick horizontals (see Figure 5.3). Angular exterior punctates of similar form to those of Vessel 1 are 6 mm deep and located 19 mm apart. Interior decoration consists of a single row of cord wrapped stick vertical impressions above single bosses. The lip varies from 7-8 mm in width and displays cord wrapped sinistral obliques.

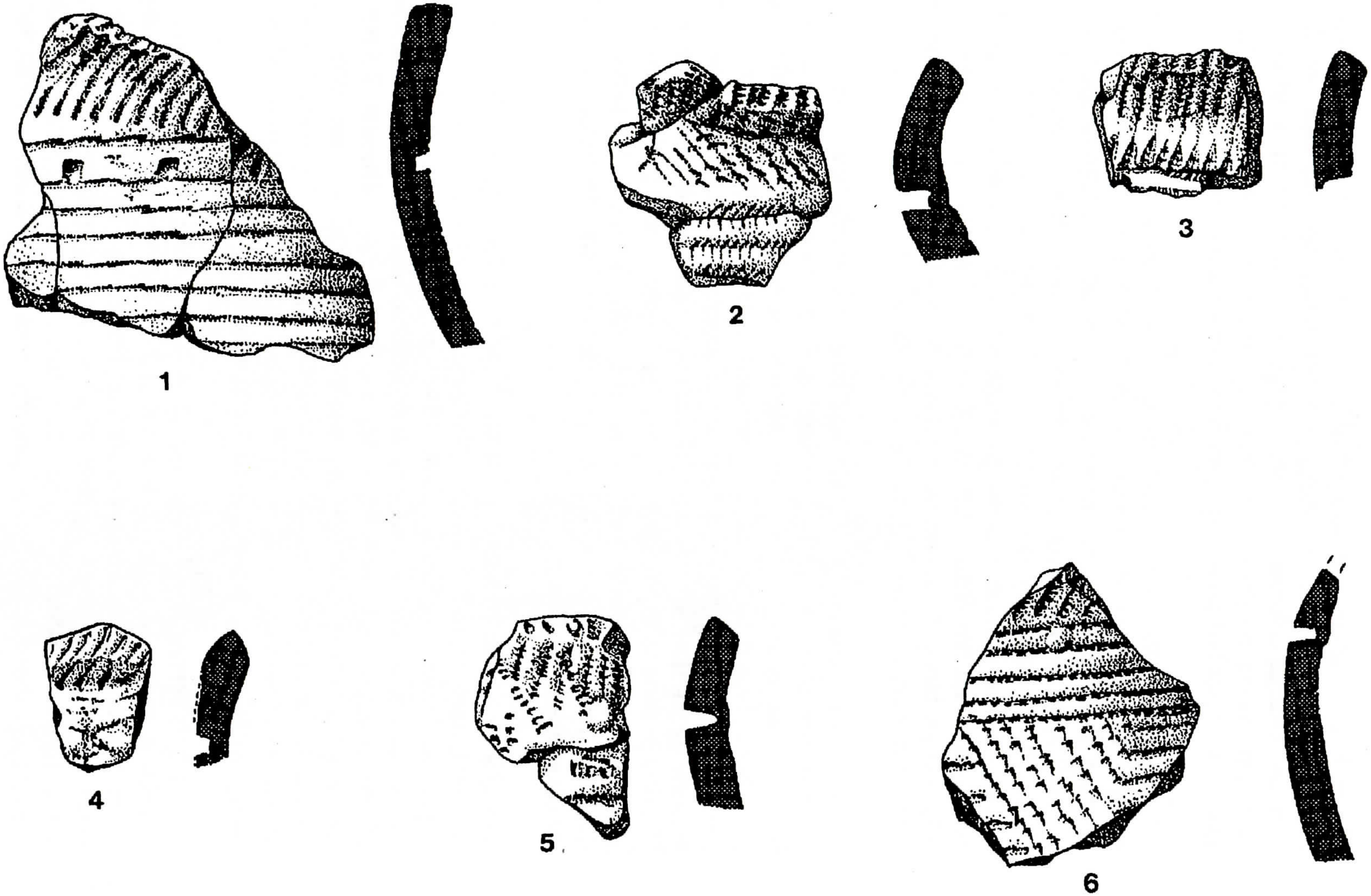

Figure 5: Diagnostic Rims From Moyer Flats.

A single rim sherd represents Vessel 4 (see Figure 5.4). Splaying of the vessel orifice following rim decoration has distorted the exterior design elements, making technique difficult to assess. A single row of sinistral oblique suture(?) impressions are situated above a row of dextral oblique cord wrapped stick(?) impressions, which in turn are above a row of bosses and plats of cord wrapped stick horizontal impressions. A single row of sinistral oblique suture(?) impressions is all that remains of the interior decoration, as the rest of the surface below has split away. The has obscured the exact form and dimensions of the interior punctates, which are spaced 16 mm apart. Cord wrapped sinistral oblique impressions decorate a 7-8.5 mm thick lip on a simple pointed castellation.

The exterior of Vessel 5 displays a row of cord wrapped stick horizontals, crossed by cord wrapped stick dextral obliques, above one or more trailed (?) horizontal lines (see Figure 5.5). This criss-cross motif is repeated on the rim interior, above a row of circular punctates 4.5 mm in diameter. These punctates are 24 mm apart and 7 mm deep, producing slight exterior bosses. The 7.5 mm thick lip is decorated with sinistral oblique cord wrapped stick impressions.

While the diagnostic sherds of all previous vessels (1-5) were derived from Unit 1, Vessel 6 is represented by a single large sherd from Unit 7 (see Figure 3, Figure 5.6). The lip is missing, however, it seems that little of the decorative motif has been lost. A row of sinistral oblique cord wrapped stick impressions surmount five cord wrapped stick horizontals, below which is a geometric pattern of horizontal and oblique knotted cord impressed elements. The interior displays a row of sinistral oblique cord wrapped stick impressions above a line of circular punctates 3 mm in diameter and 5 mm dep. Spacing could not be determined and these deep punctates form bosses between the first and second horizontals on the exterior.

Vessel 7 is again represented by a fragmentary rim, minus lip, which was recovered from Unit 2. The exterior displays vertical cording above 3 or more cord wrapped stick horizontals. Oval, upward slanting punctates measuring 6 by 4 mm and 5 mm in depth are located between the first and second horizontals. These punctates are spaced 11.5 mm apart and create interior bosses. No other interior decoration is evident.

Vessel 8 is represented by two incomplete rim sherds from Unit 1. Exterior decoration consists of vertical cording above five or more horizontal lines of oval cord wrapped stick punctates. Circular punctates 6.5 mm in diameter and 9 mm deep are, as usual, located between the first and second horizontal lines. The interior displays a row of sinistral oblique cord wrapped stick impressions above bosses.

Other neck sherds in the sample, which could not be correlated with particular vessels with certainty, display horizontal line and/or opposed triangular parallel line motifs, usually on well smoothed over cord surfaces. Techniques range from linear repeated cord wrapped stick to knotted cord to linear repeated simple tool impressing. Unit 5 produced a shoulder portion of a thin, finely made vessel displaying four or more horizontal cord wrapped stick impressed lines on the neck, and what may be fabric impressions on the shoulder and body. An otherwise plain, smooth interior exhibits a myriad of fingernail impressions created when the potter provided interior support to the vessel during the application of exterior decoration.

Body sherds display corded or smoothed over cord exteriors and one or two vessels may have been decorated with fabric impressions. Mean maximum body sherd thickness is 7 mm (n=83); however, a sub-conical basal portion of a vessel recovered from Unit 4 displays a maximum thickness of 23 mm. Three drilled mend holes are present on three smoothed over cord body sherds, apparently relating to one vessel and recovered from Units 4, 6, and 7. Finally, Unit 7 also produced a piece of fired ceramic wastage or a portion of an extremely crude juvenile vessel.

Lithics

Recoveries were again limited, although the excavated lithic sample was enhanced by adjacent field surface material. The majority of excavated lithics, including fire cracked rock, derive from Units 1 and 2. While debitage may have been utilized in the form of "pick up" tools, only three more formal tools were recovered from an excavated context.

Unit 1 produced a bipolar battered Onondaga chert fragment displaying unilateral irregular bifacial denticulate edge retouch and measuring 22.6 mm by 18.9 mm by 8.4 mm in maximum length, width and thickness, respectively. A large chlorite schist adze blank was found broken in two pieces in Unit 2. It measures 150.2 by 99.2 by 56.6 mm and weighs 1181 grams. This blank had been flaked into rough shape and pecking refinement had begun when it apparently broke and was rejected. An ovate-acuminate black slate spall from Unit 7 displays bifacial edge retouch and measures 29.2 by 22.4 by 5.5 mm. Slight rounding edge use wear is evident at 30 x magnification, suggesting that this small tool was utilised in cutting soft material (meat?).

Additional support for butchering activities on site is provided by the majority of biface thinning/re-sharpening flakes among the chert debitage. Little primary reduction of chert cores appears to have occurred and only one flake displays dorsal pebble cortex. Chipped stone material frequencies and weights for the excavated and surface collected tool and debitage samples are provided in Table 1 below. Table 2 enumerates fire-cracked rock. Finally, a triangular sandstone slab from Unit 6 has 2 spalls removed from the wide end. It measures 129.0 by 48.6 by 15.6 mm in length, width and thickness and its function is unknown.

TABLE 1
Chipped Stone Material

	Onondaga Chert		Chlorite Schist		Greywacke		Slate	
	F	W(g)	F	W(g)	F	W(g)	F	W(g)
Unit 1	15	10.1	2	0.8	2	21.2		
Unit 2	3	1.3	1	1.6*				
Unit 3	1	1.6						
Unit 4					1	0.7		
Unit 5	1	1.2						
Unit 6	3	0.9						
Unit 7	2	1.8					1	3.6
Unit 8	1	0.5						
Surface	15	30.2	1	2.6	2	13.5		

* does not include adze blank

The surface collected assemblage is equally unimpressive, including a chert bipolar core, utilized flake and thumbnail scraper, and a bit spall from a chlorite schist adze. All chert again is Onondaga Formation material. The point/ridge bipolar core measures 25.0 by 17.9 by 10.5 mm, while the linear flake is 31.5 17.6 and 4.7 mm in maximum length, width and thickness. The latter displays bilateral discontinuous edge use retouch and terminates in a hinge fracture. Measuring 20.4 by 17.3 by 6.4 mm, the burnt thumbnail scraper has a continuous retouched working edge with a 10 mm radius curvature. Finally, 28 mm of the former cutting edge is retained on the chlorite schist adze spall, which measures 16 by 31 by 4 mm.

TABLE 2
Fire Cracked Rock Material

	Igneous/Metamorphic		Sedimentary (limestone)	
	F	W(g)	F	W(g)
Unit 1	77	2807	22	2844
Unit 2	5	425	1	56
Unit 3				
Unit 4				
Unit 5				
Unit 6	3	92	4	347
Unit 7	1	3		
Unit 8	2	432	1	26

Ecofacts

A total of 93 faunal bone elements were submitted to Rosemary Prevec for identification. Of these, 73 could be identified to class (Prevec 1983). Bear is the most abundantly represented mammal and the majority of this bone was recovered from Unit 2, with lesser amounts from Units 1 and 6 (see Figure 3). Also identified were marten (1 molar – Unit 6) and Leporidae sp. (hare or rabbit scapula – Unit 3). No bird remains were identified, but reptiles are represented by snapping turtle bone from Units 6, 7 and 8, and another turtle species shell fragment from Unit 2. Fifteen bivalve and 3 snail shell fragments were recovered. The Uniondae sp. Bivalves may well represent a food source for the site inhabitants, while Prevec (1983: 5) suggests that the bear and marten elements derive from skins, as only the head and foot portions of the body are present.

Rudy Fecteau (1983) studied 470 millilitres of carbonized plant remains recovered through flotation. Soil samples from the cultural stratum in Unit 1 produced 1 carbonized raspberry seed, an unidentified seed and a tentatively identified carbonized corn kernel fragment. Two goosefoot and three unidentified seeds came from Unit 2 and a single goosefoot seed was identified for Unit 6. Recently, Rudy (Fecteau 1985) studied the screened material and identified 9 carbonized butternut shell fragments from Units 1 (n=8) and 3 (n=1). Of the carbonized wood, white elm was most abundantly represented with 76 fragments from Units 1 to 7. Second in popularity was maple with 10 fragments from Units 3 to 6. Two pieces from Unit 6 were identified as sugar maple. Beech (2 fragments) and birch, ironwood and white pine, represented by a single piece each, round out the sample. A further 29 fragments were unidentifiable.

Radiocarbon Date

A 12 gram sample of carbonized wood recovered by flotation from the cultural stratum was submitted for dating. The result was a determination of 1050 ± 80 B.P. (I-13,078) or 900 A.D., uncorrected (Fox 1983).

Discussion

Recoveries during the two days of salvage excavation were admittedly limited, but they are also tantalizing. Taken together, the data suggest that a portion of a former lodge site was exposed. A hearth may have been situated in or adjacent to Unit 1, as evidenced by fire-cracked rock and burnt chert debitage distributions. Ceramics were also concentrated in this area, while bear remains suggest that a skin may have been left lying just to the south of the feature. The "post holes" penetrated only a centimetre into the subsoil and thus, are not totally convincing.

Whether or not the artifact distribution represents a lodge site or outdoor activities, the total area involved appears to have been limited, albeit reduced in size by river erosion. It is much smaller in area than the Blair Flats site (AiHc-8), located some

250 meters to the north. The latter, based on surface reconnaissance, appears to be a small village site or hamlet surrounded by middens. Floral and faunal evidence from Moyer Flats suggest that the site was occupied during the warm season (Prevec 1983: 5). Since both the ceramic and lithic artifact assemblages from the Blair Flats village and Moyer Flats site are extremely similar, it may be that the latter represents an outlying summer/fall activity area related to the village.

Ceramics from both sites look like Princess Point wares (Stothers 1977). While the Moyer Flats vessel sample is very limited, the ratio of interior to exterior punctated vessels (1:1) is nevertheless considered significant. The only dated site in Stothers' sample approaching this ratio is the Porteous village at roughly 1:2 interior to exterior punctates (Stothers 1977: 251). All other Princess Point sites assigned to his Early and Middle phases display a heavy preponderance of exterior punctation. Conversely, exterior punctates give way in popularity to interior punctates on Glen Meyer sites by the eleventh century. The ceramic data, then, suggest that the single radiocarbon date for Moyer Flats, when calibrated to later in the 10th century (Timmins 1984), may well be an accurate chronological indicator.

Conclusions

The Moyer Flats site excavations are noteworthy more in the questions they raise than in those answered. Are the Moyer Flats and Blair Flats sites contemporary? If they are, do they represent a tenth century northern outpost of the earliest agriculturalists (Glen Meyer peoples) in the Grand River valley; an occupation already organized in a traditional Iroquoian seasonal settlement pattern? As little remains of the Moyer Flats component, only future excavation of the Blair Flats hamlet can begin to answer these questions. The latter site may equal or surpass the Porteous village in providing information concerning the critical initial period of Ontario Iroquoian transition from a hunting and gathering to a more sedentary agricultural society.

Acknowledgements

The writer wishes to begin by thanking Mr. Jack Redmond for calling attention to the endangered site and assisting in the fieldwork, and also Mr. Floyd Moyer for allowing access to his property for the excavations. Fieldwork was quickly and efficiently accomplished by the writer's crew, consisting Ian Kenyon, Neal Ferris, Jeff Hohner and Chris Hohner. Report production was made possible through the word processing skills of Christine Dodd and the artistic talent of Janie Fox, who illustrated the ceramics. Thank you.

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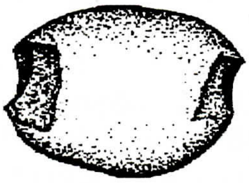
A TRUE CANADIAN FISH STORY: ARCHAEOLOGICAL FOOD FOR THOUGHT

William Fox

July, 1982

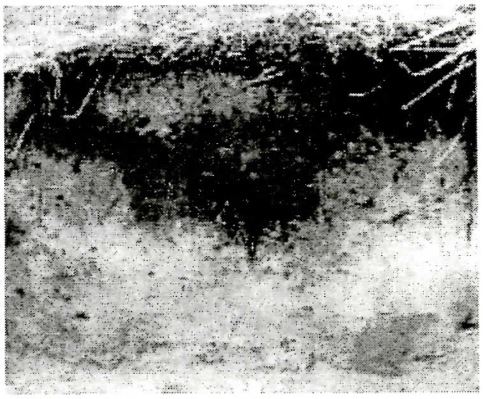
It was one of those typical July days in southern Ontario - a sultry heat, only relieved by cool lake breezes as Dr. Michael Spence and I headed out on Long Point Bay with Corporal Varden and Constable McCallum of the Ontario Provincial Police, Norfolk Detachment (Fox 1982:12). The previous October, the London Office of the Ministry of Culture had received yet another shipment of unidentified human bone from the office of the Provincial Forensic Pathologist in Toronto. As it seemed likely that the remains were of First Nations individuals, Chief Wellington Staats of Six Nations had been contacted and consulted as to process. Little did we realize that this would be the beginning of a multi-year program of site survey and rescue excavation activities on Long Point (Fox 1986, MacDonald 1986, Fox and Molto 1994).

The previous July, a fishing party from Buffalo, NY had stumbled upon a human skull and reported the occurrence to Con. McCallum. As our boat rounded Pottohawk Point and headed to the discovery site, sparsely vegetated dunes and sand beaches stretched before us. Gliding into the warm shallows, we disembarked to begin our investigation. Dark organic layering was immediately evident in the eroding face of a low dune surmounted by a lone pine tree. Soon we found notched pebble net sinkers, flint flakes and a flint knife, pottery cooking vessel fragments and abundant fish bone.



We made a tape and compass sketch map and recorded several bank profiles. Profile 1 documented what appeared to be a pit feature extending 17cm below the bottom of a black surficial stratum, some 17 to 20 cm in thickness.

No human remains were discovered along the exposed bank, although a few skeletal elements were recovered from under the sand just off shore (Molto 1983) The ceramics suggested that this fishing camp dated to about 1000-1200 years ago. But, perhaps the most impressive aspect of the site was the abundance and excellent preservation of the fish bone. Fully articulated vertebral columns exposed in the bank! In my twenty years of Ontario field experience, I had never seen anything like this.



We left the Varden site with mixed feelings later that afternoon. No intact burials had been found, and it appeared likely that any further human remains would be discovered only in a disturbed context in the lake shallows. On the other hand, we had documented the first archaeological site located on Long Point - an 1100 year old encampment remarkably near the present tip of the point. This raised some interesting questions concerning the genesis and rate of growth of Long Point itself. But the question most begging for an answer was why were those people discarding virtually intact fish of a fairly large size on this site? Were they filleting these fish? Exactly what species were they? Rosemary Prevec (1983) was able to supply some of the answers in her faunal report.

Rosemary's analysis of the 237 faunal elements recovered during our investigation indicated that a little over 70% derived from fish. This was no surprise. The surprise was the fact that over 97% of the identified fish bone was from burbot - a species that prefers a cold water habitat! Burbot are members of the cod family - Gadidae and have a circumpolar distribution (Scott and Crossman 1973:640). They are known also as eelpout, ling, lawyers (odd, they're not bottom feeders), loche, and made (in Finland).

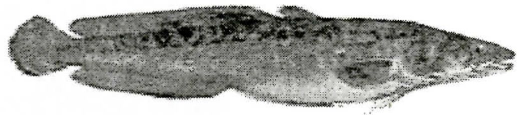


Illustration by Virgil Beck

Long Point Bay is not a noted cold water habitat. What was the answer? The only time that these deep water fish would be available in the Long Point shallows would be when they spawned at night in late March (Clemens 1951). Early spring could be pretty chilly out near the east end of Long Point and travel by (dugout?) canoe at that time might be precarious, yet the evidence for such visits was suggestive, if not convincing. I pictured warmly clothed people in canoes playing out nets by torchlight with chilled fingers, and then drawing the nets into shore to expose a writhing mass of fresh water cod on the beach.

I "reeled back" to the winter of 1974 in Quetico Provincial Park; snowshoeing across French Lake on a crisp -30 C. starry night, to find our fishing lines held fast by 3 cm of newly formed ice. That day, we had ventured out on foot and by dog sled to try our luck at catching a meal of lake trout. The exercise had been entertaining, but unproductive. As my axe sliced through the ice to free the first line, it jerked down - there seemed to be a fish on! Soon a fish lay flopping upon the snow - a trout? No, a ling or burbot lay there in all its comparative ugliness! Back into the hole it went. The same scenario was played out hole after hole, until finally the last line had been drawn in to expose.... another burbot. Remembering that the Park Naturalist, Shan Walshe, had spoken of the good quality of the meat, I "swallowed my fisherman's pride" and kept the final fish. It flipped a couple of times at the end of the line and then froze into a gentle arc. Returning to the lodge, I dropped the fish in the stainless steel kitchen sink with a clatter. As the sink filled, the fish thawed and began to swim around! Alas, its life was ended and the filleting completed to expose a gelatinous strip of meat - not the most appetizing sight.

So, the Varden site fishermen had been harvesting large numbers of burbot. What could be the attraction, given the relatively low meat to body weight ratio of the species and the likelihood that fishing at the end of Long Point had not been particularly comfortable? Furthermore, burbot meat is generally of lower nutritional value than the flesh of many of the species that could have been harvested along Long Point at warmer times of the year and at sites closer to the mainland. A hundred grams of burbot meat provides only 89.9 calories of food value, as compared to 93.2 calories for walleye, 95.1 for channel catfish and 119.1 calories for the same portion of trout (CNN Food Central WEB site). Could this have been a food source that was only used when the inhabitants of the Long Point area were faced with winter starvation? These fish are relatives of the salt-water cod, I mused, and cod liver oil is a highly regarded vitamin A and D source. Perhaps the articulated vertebral columns signaled filleting activity, or perhaps some fish were being gutted for the liver alone. Ethnographic and ethnohistoric sources have documented the importance of fats and oils (i.e. nut oils - Ozker 1982:35-37) in Native diets, particularly over the winter period. Would this have justified the discomforts and potential risks of an early spring trip to the tip of Long Point? I thought this a possibility and suggested it to the faunal analyst (Prevec 1983:4).

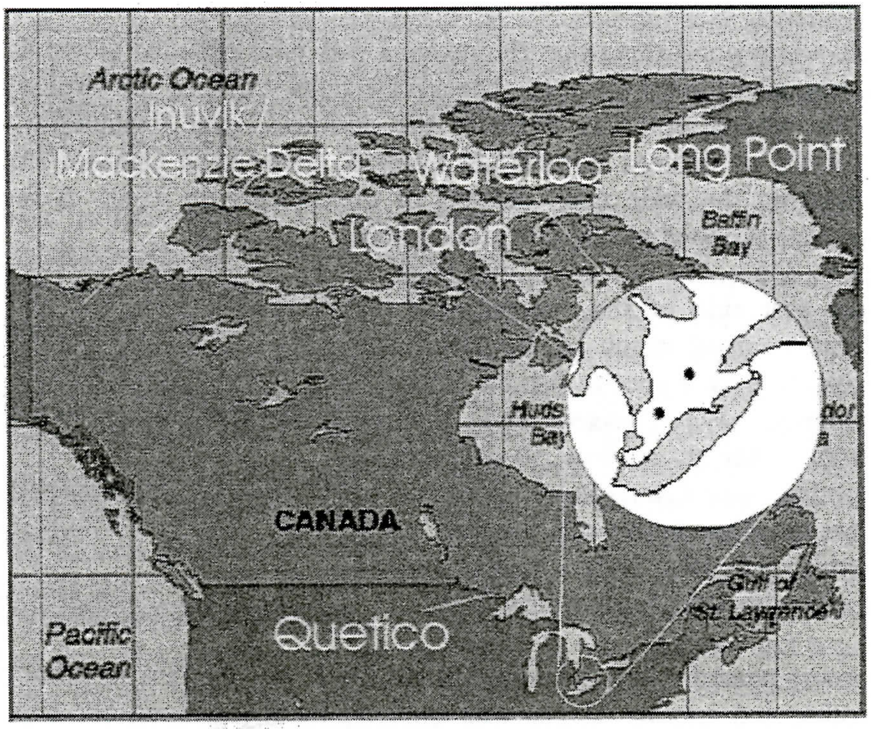
November, 1997

The gas cans were being topped up in the darkness of a late fall evening, as the whine of snow machines rose from the river below. At this point in the year it was dark in Inuvik pretty well all day long, and the temperature was a seasonal -35C. With a roar, the convoy of machines and komatiks (sleds) descended the hill to the east channel below. It was a good thing that the group I was with included Gerry Kisoun and his friends, who had grown up in the Mackenzie delta - one of the largest mazes in the world. We wound our way north in the darkness, ever vigilant for open water. Turning west, we entered Bombardier Channel, then Oniak Channel, Luker Channel, before entering the wide main channel of the Mackenzie River. A few kilometers later, we were stopped at our first fishing spot - not much doing. We moved on to a location along the east side of the channel, just off shore from a small notch in the riverbank. This would be a good spot to fish for "loche" I was informed. We chiseled and augured through the relatively shallow 10 - 15 cm of ice to produce four fishing holes about five to ten meters apart and baited our "jiggling" stick lures with jackfish belly meat. Jigging commenced with little result at first.

As the hours passed, Gerry's friend "Buck" Dick was the first to draw in a fish, and then another and another. Gerry was catching them too now, but I was having no luck. Finally, in frustration, I took off my fur mitten and started to jig the line with my bare hand. There was a faint tug, and then a heavy weight as I hauled a 2 kilogram burbot onto the ice. These fish were fat, their smooth distended bodies still smeared with mud, from "bellying up" to the small creek mouth shallows to gorge on jackfish fry. The loche flopped on the ice and after several sharp blows to the head with the jiggling stick, spit out the lure bait and all. It soon froze stiff, joining the growing pile of frozen fish that began to resemble a heap of cordwood. We caught a komatik load of fish before returning to Inuvik.

We divided the fish at Gerry's home. Then he left to distribute most of our catch to Inuvialuit Elders in the community, while I returned home with three large specimens. I cached two fish under the porch (away from the ravens), and brought the third in to thaw and clean. Gerry had suggested a number of ways that the meat could be prepared, noting that the livers were particularly tasty. He said that the meat tasted like rock lobster, and was commonly deep-fried. When the obese and ugly loche finally thawed in my kitchen, I could only extract two thin strips of meat from either side of its back. However, my "autopsy" exposed a liver as large as my hand, which I put in the refrigerator in a ziploc bag. A stomach incision produced a veritable explosion of several centimeter long jackfish fry. The battered and fried meat provided a palatable meal, but it didn't taste much like rock lobster to me!

By the next day, several centimeters of oil had accumulated in the bottom of the ziploc bag, clearly indicating how rich these large organs are in oil. My one and only culinary experiment with loche liver produced a rather fishy tomato sauce for a spaghetti dinner!



October, 1999

At last years OAS symposium in Waterloo, the experiences and memories described above flooded back as Dr. Ron Williamson and Dr. Susan Pfieffer discussed the potential source of a high nitrogen signature in the analysis of certain human remains from the Moatfield Ossuary in north Toronto (van der Merwe 2000). I happened upon them as they were considering possible fish species, and burbot livers and the Varden site leapt to mind. After all, deeper colder Lake Ontario would be a much more "burbot-friendly" environment and probably supported a large and perhaps more easily accessible population of these fish. Whatever the food source of the nitrogen, it was selectively distributed in the Moatfield population.

January, 2000

Returning to my new Parks Canada post in Ucluelet, I began to research this question. Other archaeologists and osteologists were consulted, as well as my library, the Internet and old field notes. I discovered that we had found another site with an unusually high frequency of burbot bone (Prevec 1988), just west of Varden and interestingly, that seemed to be of similar age. Shallow water species and spring/summer spawners, such as gar, bowfin, bass, catfish and walleye, dominated fish bone assemblages from later campsites on Long Point. This sounded like a more comfortable fishing strategy.

An email to Dr. Pfieffer led me to a recent unpublished article on Siberian research and an old acquaintance, Dr. Anne Katzenberg. Her specialty is stable isotope analysis of human remains, as used to determine group diet. She had analyzed the Varden burials and forwarded a copy of her paper (Katzenberg et al. 1995) in which she commented on the anomalously low carbon 13 values for these people. Anne argued that while these people could have grown and eaten corn, they seem to have lived primarily on fish and game and lacked evidence of corn in their diet (Ibid: 343). Her analyses were consistent with the archaeological evidence reported by MacDonald (1986). She went on to point out that carnivorous fish (burbot) and especially fat or oil from such fish could reduce the carbon ratios used to identify corn consumption. Yet the nitrogen 15 values for the Varden population are low - lower than would be expected for people eating large quantities of burbot. This observation led Katzenberg (1995:347) to conclude that burbot may have been used primarily for their oil.

The evidence was building for my hypothesis as to why the Varden people ventured out some 30 kilometers into a chilly March Lake Erie to fish. At this point though, there seemed little connection with the nitrogen signature in the Moatfield sub-population. Dr. Katzenberg did provide some other leads concerning nitrogen isotopes and burbot. Hecky and Hesslein's (1995) analysis for some northwestern Ontario specimens (delta 13 carbon: -25.6 to -24.6 and delta 15 nitrogen: 9.3 to 10.1) compared very well with pike and walleye from the same lake. These top of the food chain predators yield considerably higher nitrogen results for specimens from the western Canadian arctic (Ibid) and Siberia (Katzenberg and Weber 1999; Figure 2) and Dr. Katzenberg warned me that fluctuations in carbon and nitrogen could be due to lake chemistry, season of capture and age of the fish, among other factors. The "jury remains out" concerning the Moatfield question, as there are other potential high nitrogen sources, such as migratory waterfowl (Katzenberg et al. 1995:347). More analyses are required, including livers from burbot populations in Lake Ontario.

Much remains to be answered concerning the early spring night fishery on Long Point over a thousand years ago. If the Varden people harvested burbot primarily for their livers - for their nutritional/medicinal value - how did these people learn of the efficacy of these organs? If they were harvesting these fish in the numbers suggested by the archaeological record, could they be eating the entire catch on site? If not, how were they keeping them from decomposing during transport? Were they smoking the livers to preserve them, as is still done in some Scandinavian countries? The early seventeenth century Huron peoples caught fish (Einchataon or Annentrata,on) during the late fall in Georgian Bay, which Steckley (1986) has suggested may have been burbot. They appear to have been brought back to their villages frozen/dried and uneviscerated, cooked whole in their corn soup and then crushed and returned to the soup. This has lead Steckley (Ibid:22) to suggest that the reason for this unusual practice was that the Huron desired the liver of this fish which has "a high nutritional value." The Huron preservation strategy would not have been successful on the Varden site, due to springtime temperatures. It was cold, no doubt, but not that cold. Perhaps, the most perplexing question that remains is why this demanding fishery is not represented on later campsites on Long Point? Is this purely a question of site sampling (no later period early spring sites have been discovered) and, if not, what replaced cod liver oil in the local diet? Finally, have any similar fishing camps been identified elsewhere in the Great Lakes region? They have not, to the author's knowledge. Perhaps the Varden people were an isolated band of hunter-gatherers-fishers who had decided not to embrace the mainstream transition to corn horticulture, as intimated by Katzenberg et al. (1995). That might explain the genetic homogeneity of the population, as noted by Molto (1983).

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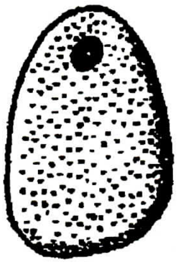

Information leading to the discovery of the spatial and temporal distribution of black stone tool pendants. Last seen in the Canadian Museum of Civilization collections, but known to frequent Southwestern Ontario institutional and private collections. Suspect is approximately 25 – 30 mm in height and 600 years of age.

Anyone with information concerning this artifact is requested to contact Bill Fox at foxcon@alberni.net or by snail mail at Box 705, Ucluelet, BC V0R 3A0.

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